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November 2000

Italy

Italy is almost entirely dependent on imports to meet its energy needs. The country's heavy reliance on foreign oil and gas sources such as Libya and Algeria has made energy security and diversification of energy sources top concerns.

The information contained in this report is the best available as of November 2000 and is subject to change.



BACKGROUND

Italy is one of the world's largest economies, a founding member of the [European Union \(EU\)](#), a North Atlantic Treaty Alliance (NATO) member, and a member of the Group of Seven (G-7) industrialized nations. It joined the common European currency, the euro, on January 1, 1999.

Italy's 58th government since 1945 came to power in April 2000. The current center-left government is headed by independent Prime Minister Giuliano Amato (who was also prime minister for ten months in 1992-1993). The government relies on a coalition of twelve political parties out of Italy's total of more than 40. Two wings of the coalition vary greatly in their attitude toward liberalization, which the EU requires in members' energy sectors. One faction wants to sell state assets and thoroughly deregulate, while the other wants greater job security, generous state pensions, and a cradle-to-grave public health service.

EU membership has initiated important changes in Italy's energy sector, requiring

privatization of Italy's dominant energy monopolies. Hence, Italy's energy sector has been undergoing considerable restructuring in recent years. ENI, the state-held oil and gas conglomerate, along with its main subsidiaries, Agip (hydrocarbons exploration and production) and Snam (gas supplies and distribution), and the state-owned electricity company, ENEL, are in the process of privatization. Both ENEL and ENI became joint stock companies in 1992. The Italian government sold off shares of ENI between 1995 and 1998, and now holds 35% of the company. Privatization of ENEL stalled but then moved ahead with a 34.5% sale in November 1999.

With limited domestic energy sources, Italy is highly dependent on energy imports. As of 1998, Italy was estimated to be less than 20% self sufficient in terms of energy. Historically, the country has relied heavily on imported oil, much of it from North Africa. In recent years, oil consumption has declined (although Italy remains one of the largest oil consumers in Western Europe) in favor of natural gas. Natural gas is a much cleaner fossil fuel that helps Italy to meet domestic, European, and broader international requirements for a cleaner environment. As with oil, North Africa is a large exporter of natural gas to Italy. There have been concerns that this reliance on North African sources has potentially negative implications for Italian energy security.

OIL

Italy holds 622 million barrels in proven oil reserves. In 2000, the country produced an estimated 142,000 barrels per day (bbl/d) of oil and consumed about 2.0 million bbl/d, making it more than 99% reliant on imports and one of Europe's largest oil importers. Former Italian colony Libya is Italy's main source of oil imports, and other major import sources include Algeria, Egypt, Russia, and Iran. Italy is in the process of decreasing its reliance on oil, especially for electricity generation. Natural gas consumption is expected to rise as oil consumption falls in coming years.

Exploration and Production

In order to bolster energy security and reduce dependence on foreign sources, Italy is in the process of increasing domestic production. ENI is the operator in a joint venture with Britain's Enterprise to develop 600 million barrels of oil equivalent (including oil and associated natural gas) at Val d'Agri, in the southern Apennine region, considered to be Europe's most promising onshore development area. Output of 11,000 bbl/d from the fields began in 2000, but limited transport capacity will prevent production reaching its target capacity of over 100,000 bbl/d until a new pipeline is completed. Construction on the 93-mile (150-kilometer), 170,000-bbl/d pipeline connecting the fields to the Taranto refinery met unanticipated delays due to new environmental legislation, and the pipeline now is slated to begin operations in the second quarter of 2001. ENI aims to have the fields producing at peak capacity in 2002.

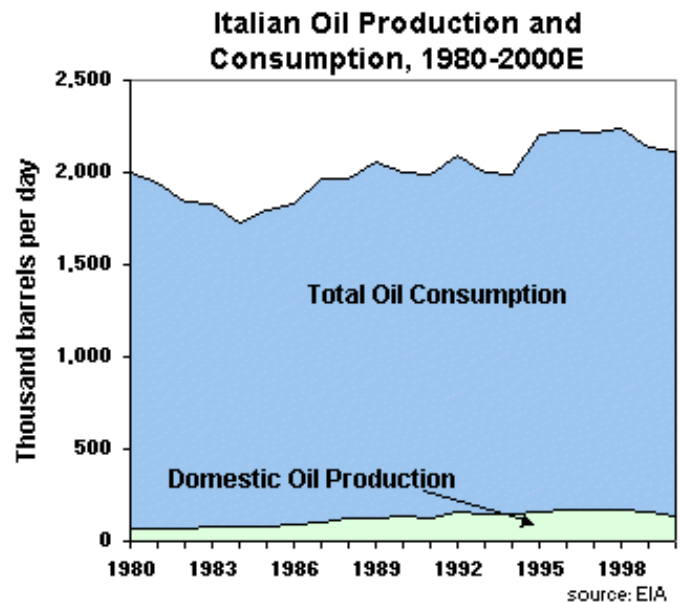
In the Tempa Rossa field, neighboring the Val d'Agri fields, ENI is developing over 400 million barrels of oil equivalent in a joint venture with Enterprise (25%), TotalFinaElf (25%), and ExxonMobil (25%). Tempa Rossa has much heavier crude than Val d'Agri, and ENI reportedly plans to drill only 7 wells at Tempa Rossa (as opposed to 42 at Val d'Agri). ENI hopes to be producing 44,000 bbl/d by 2003.

Downstream

To ensure access to foreign oil, the Italian government has promoted Italy as an export refining center. There are large facilities along the Mediterranean coast and on Mediterranean islands, capable of processing a wide range of crude oils from North Africa and the Persian Gulf. As a result, Italy now has Europe's largest surplus of refining capacity. ENI operates six of the 16 major refineries in Italy. While underutilized, the Italian refineries remain attractive because of their ability to handle large tankers and process many different fuel types, and also because of their catalytic and hydro cracking abilities.

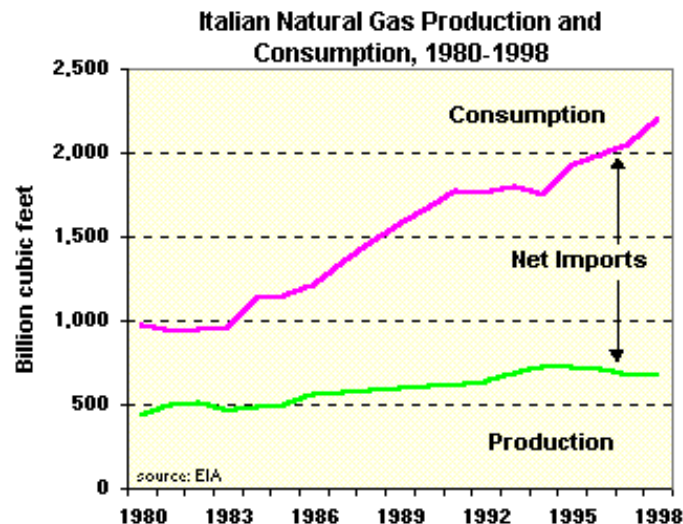
Liberalization of Italy's retail gasoline sector has been controversial in the last year, with the gas station workers union staging several strikes to protest anticipated job losses. The government plans to close about 5,000 of Italy's 25,000 gas stations, as Italy has more gas stations per capita than any European country. The government maintains that reducing the number of stations will help to reign in the cost of gasoline.

In June 2000, in further efforts to address steadily increasing gasoline costs that went above \$4 per gallon in the summer of 2000, Italy's antitrust commission found seven oil companies guilty of price-fixing at the retail level. The companies were fined about \$300 million, and in November 2000 the courts upheld the ruling in an appeal but reduced the fine to about \$200 million.



NATURAL GAS

Italy has natural gas reserves of 8.1 trillion cubic feet (Tcf). In 1998, the country produced 670 billion cubic feet (Bcf) and consumed 2.2 Tcf, relying on imports for roughly 70% of total consumption. Italy's gas consumption has risen substantially since imports began in the early 1970s, with ENI gas purchases from the Netherlands and Russia. Italy currently is the third largest gas market in Europe, behind Germany and the United Kingdom. Natural gas use has increased quickly in recent years, especially for power generation. Gas now represents about 30% of total energy consumed in Italy, and this share is expected to grow in the coming years. According to ENEL officials, by 2010, 60% of electricity in Italy will be generated by natural gas and only 10% by oil; currently, oil accounts for about 60% of generation, and gas only 10%.



Sector Organization

ENI controls the Italian gas market through its subsidiary, Snam. Snam is responsible for about 88% of domestic gas production, 100% of transportation, and 85% of distribution. Edison Gas, an independent power producer (IPP), is the only other significant company in the Italian gas sector. Italy has had very high rates of return for gas suppliers, transporters, and distributors, when compared with other European countries.

According to the EU Natural Gas Directive, passed in June 1998, member states must open their gas markets to competition. The Italian government unveiled plans for its gas liberalization process in June 2000, when the government directed that no single company can supply more than 50% of the gas sold to final users by 2002. No company will be responsible for more than 75% of gas imports beginning in 2002, and 61% by 2010. Snam will retain control of Italy's 30,000-kilometer (almost 19,000-mile) pipeline network, but parent company ENI must split Snam's pipeline transport activities from commercial and sales activities. New gas tariffs are expected by the end of 2000, and Snam is expected to float up to 50% of its shares in the wake of the new tariff rates.

Imports

Diversification of supply is an important issue, as Italy relies heavily on Algeria and Russia. In 1997, Italian gas sources were estimated to be 30% domestic, 30% Algerian, 26% Russian, and 10% Dutch (the remaining 4% was in the form of liquefied natural gas, and was imported from Algeria). In 2000, Edison Gas signed a 20-year contract with Promgas (a joint venture of Russia's Gazprom and ENI) to begin with one billion cubic meters (35 Bcf) in 2000.

Libya and Norway are the major alternative suppliers for Italian gas. The biggest project under consideration is the proposed construction of a pipeline to link Libya and Italy's southern island, Sicily. This "West Libya Gas Project" was finalized in July 1999 as a joint venture between Libya's state-held National Oil Company and ENI. A 600-kilometer (372-mile) pipeline will run under the Mediterranean and connect with the TransMed pipeline, delivering a total of 8 billion cubic meters per year (282 Bcf), starting in 2003/2004. Snam also has signed a 25-year contract to receive 6 billion cubic meters per year (212 Bcf) of Norwegian natural gas through existing pipelines, beginning in 2000.

ENI is involved in projects outside Italy as well. In the late winter of 1999, Russia's natural gas monopoly, Gazprom, and ENI signed an agreement to cooperate on the Blue Stream project. The project will involve laying a 400-kilometer (250-mile) pipeline on the floor of the Black Sea to connect Russia and Turkey. Each company will hold a 50% share in the project, and the gas will be sold jointly by the two companies in Turkey. ENI recently became a minority holder in Portugal's *Petroleos e Gas de Portugal* (GALP) and formed a partnership with Spain's Iberdrola.

Liquefied Natural Gas

Liquefied natural gas (LNG) accounts for less than 5% of total Italian gas consumption. Italy receives Algerian LNG at its La Spezia terminal, under a 25-year contract that runs until 2015. ENEL also signed a contract in 1992 under which Nigerian LNG will be delivered to ENEL for 22 years, beginning in 1999.

COAL

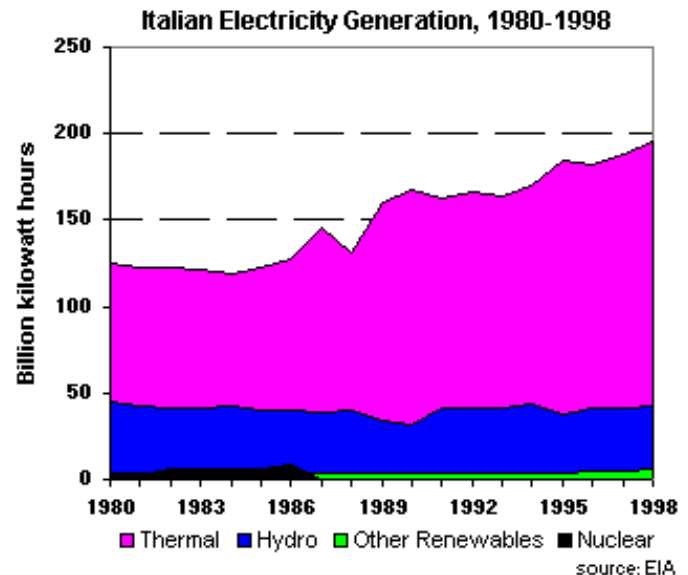
Coal consumption in Italy is dominated by power generation, which is increasing, and coke production for steel, which is decreasing. Coal has played a small role in the Italian energy sector, and Italy produces almost no coal domestically. In 1998, less than 6% of Italy's primary energy demand was met with coal. The power sector is expected to increase its coal consumption in coming years, as ENI works to decrease reliance on imported oil. Clean coal technology will figure prominently in this increased coal usage, as EU environmental stipulations, Kyoto targets, and Italian public opinion demand that Italy's energy sector become increasingly clean.

Increased coal usage will be supplied by a combination of increased domestic production and increased imports. Coal mines on the island of Sardinia, previously closed by ENI, are scheduled to be re-opened. Imports are predicted to double in coming years. Main exporters to Italy are the United States, Australia, and South Africa.

ELECTRICITY

Italy has electric generation capacity of 63.5 million kilowatts, and in 1998 the country generated 243.0 billion kilowatt hours (bkwh) and consumed 266.7 bkwh. Generation is mostly from thermal sources, although the mix of thermal power is shifting away from oil and toward gas, and to a smaller extent toward coal. Non-hydro renewable electricity generation (mostly solar and geothermal) almost doubled in the 1990s.

Italy's extensive electricity network is linked to its neighbors. Electricity imports come mostly from France and Switzerland. Construction on a new 164-kilometer (102-mile) underwater cable to link Italy and Greece was underway in January 2000 and could be complete by the end of 2001.



Sector Organization

EU directives require member countries to open their electricity markets to competition and also require that no single company generate more than 50% of any member country's electricity by 2003. ENEL, which was 100% owned by the Italian government until November 1999, produced over 70% of Italy's electricity in 1998.

However, the sector is changing rapidly. The November 1999 ENEL privatization stock sale was the world's largest initial public offering (IPO). The government floated 34.5% of the company, which sold for 18 billion euros (\$15 billion), on the Milan and New York stock exchanges. Another public offering is expected before the end of 2001.

Also in late 1999, the company spun off three separate and independent generating companies, totaling 15,000 megawatts (MW) of generation capacity: Eurogen, the largest company, is based in Rome and Milan; Elettrogen is the second largest, is based in Rome and Piacenza; the smallest company, Interpower, is based in Naples and Rome. Specific plans for the sales are expected to be announced before the end of 2000; while the companies can be sold at any time before 2003, the current government intends to have sales underway by March 2001. Elettrogen, the first company to be sold, has already generated considerable interest. The sale could be concluded as early as January 2001. No company will be allowed to acquire or hold stakes in more than one of the three companies.

In May 2000, ENEL sold 26 hydropower stations to a new entity, Regione Valle d'Aosta, with which it will work in a joint venture to operate the power stations and related transmission and distribution networks.

In early November, the European Commission approved a merger that gives Italian conglomerate Compart SpA sole control of Falck SpA, forming the second-largest electricity generation company in Italy. The deal also gives Compart control of Falck's subsidiary, Sondel SpA, one of the companies that has expressed interest in the sale of Elettrogen.

Nuclear

Italy has four nuclear power plants, all owned by ENEL. None is in operation. In 1987, a public vote decided against the use of nuclear power. The plants have remained idle since that time, and no nuclear generation is expected in the foreseeable future.

ENVIRONMENT

Environmental awareness has grown in Italy in recent years. Although Italy has relatively low [per capita](#) energy consumption and [energy intensity](#) levels in comparison to other OECD countries, [air pollution](#) remains a serious environmental challenge.

Because of Italy's heavy reliance on oil imports to meet its energy needs, energy security and diversification of energy sources are a top priority in Italy's energy strategy. Italy is well endowed with [renewable](#) energy resources, such as solar, biomass and geothermal, that could be captured and utilized for energy. The government's goal of doubling the country's production of energy from renewable resources by 2012 will help enable Italy to meet its growing energy demand in the [21st century](#) in a more sustainable manner.

COUNTRY PROFILE

President: Carlo Ciampi (since 1999)

Prime Minister: Giuliano Amato (since April 2000; next election currently scheduled for April 2001)

Location/Size: Southern Europe/301,230 sq km (186,763 sq mi, slightly larger than Arizona)

Major Cities: Rome (capital), Milan, Naples, Turin, Palermo, Genoa

Languages: Italian, German (parts of Trentino-Alto Adige region are predominantly German speaking), French (small French-speaking minority in Valle d'Aosta region), Slovene (Slovene-speaking minority in the Trieste-Gorizia area)

Ethnic groups: Italian (includes small clusters of German-, French-, and Slovene-Italians in the north and Albanian-Italians and Greek-Italians in the south)

Religion: predominately Roman Catholic with mature Protestant and Jewish communities and a growing Muslim immigrant community

Population (2000E): 57.6 million

Defense (8/98): Army, 165,600; Navy, 40,000; Air Force, 63,600; Paramilitary forces, 255,700; Conscripts, 134,100

ECONOMIC OVERVIEW

Minister of Finance: Ottaviano Del Turco

Currency: Lira (L)

Market Exchange Rate (11/14/00): US\$1=2252.70 Italian Lira

Nominal Gross Domestic Product (GDP, 2000E): \$993.0 billion

Real GDP Growth Rate (2000E): 2.8%; **(2001F):** 2.8%

Unemployment Rate (2000E): 10.7%; **(2001F):** 10.3%

Inflation Rate (consumer prices, 2000E): 2.0%; **(2001F):** 1.8%

Major Export Products: Textiles, clothing, machinery, transportation equipment

Major Import Products: Crude oil, other fuels, machinery, transport equipment

Major Trading Partners: Germany, France, Netherlands, U.S., Saudi Arabia, United Kingdom

ENERGY OVERVIEW

Minister of Industry, Commerce and Handicrafts: Enrico Letta

Proven Oil Reserves (1/1/00): 622 million barrels

Oil Production (2000E): 142,000 barrels per day (bbl/d), of which 77,000 bbl/d is crude oil

Oil Consumption (2000E): 2.0 million bbl/d

Net Oil Imports (2000E): 1.8 million bbl/d

Crude Oil Refining Capacity (1/1/00): 2.34 million bbl/d

Natural Gas Reserves (1/1/00): 8.1 trillion cubic feet (Tcf)

Natural Gas Production (1998E): 670 billion cubic feet

Natural Gas Consumption (1998E): 2.2 Tcf

Net Natural Gas Imports (1998E): 1.5 Tcf

Recoverable Coal Reserves (1997): 37 million short tons (Mmst)

Coal Production (1998E): 0.09 Mmst

Coal Consumption (1998E): 19.8 Mmst

Electric Generation Capacity (1998): 63.5 million kilowatts

Electricity Generation (1998E): 243.0 billion kilowatthours

Electricity Consumption (1998E): 266.7 billion kilowatthours

ENVIRONMENTAL OVERVIEW

Minister of Environment: Willer Bordon

Total Energy Consumption (1998E): 8.0 quadrillion Btu* (2.1% of world total energy consumption)

Energy-Related Carbon Emissions (1998E): 120.0 million metric tons of carbon (2.0% of world carbon emissions)

Per Capita Energy Consumption (1998E): 139.0 million Btu (vs U.S. value of 350.7 million Btu)

Per Capita Carbon Emissions (1998E): 2.1 metric tons of carbon (vs U.S. value of 5.5 metric tons of carbon)

Energy Intensity (1998E): 6,700 Btu/ \$1990 (vs U.S. value of 13,400 Btu/ \$1990)**

Carbon Intensity (1998E): 0.10 metric tons of carbon/thousand \$1990 (vs U.S. value of 0.21 metric tons/thousand \$1990)**

Sectoral Share of Energy Consumption (1997E): Industrial (44.0%), Transportation (25.7%), Residential (23.3%), Commercial (6.6%)

Sectoral Share of Carbon Emissions (1997E): Industrial (41.3%), Transportation (30.0%), Residential (22.5%), Commercial (6.2%)

Fuel Share of Energy Consumption (1998E): Oil (54.0%), Natural Gas (28.2%), Coal (5.7%)

Fuel Share of Carbon Emissions (1998E): Oil (63.9%), Natural Gas (27.0%), Coal (9.1%)

Renewable Energy Consumption (1997E): 552 trillion Btu* (2% increase from 1996)

Number of People per Motor Vehicle (1997): 1.7 (vs U.S. value of 1.3)

Status in Climate Change Negotiations: Annex I country under the United Nations Framework Convention on Climate Change (ratified April 15th, 1994). Under the negotiated Kyoto Protocol (signed on April 29th, 1998, but not yet ratified), Italy, as a member of the European Union, has agreed to reduce greenhouse gases 8% below 1990 levels by the 2008-2012 commitment period.

Major Environmental Issues: Air pollution from industrial emissions such as sulfur dioxide; coastal and inland rivers polluted from industrial and agricultural effluents; acid rain damaging lakes; inadequate industrial waste treatment and disposal facilities

Major International Environmental Agreements: A party to Conventions on Air Pollution, Air Pollution-Nitrogen Oxides, Air Pollution-Sulphur 85, Air Pollution-Sulphur 94, Air Pollution-Volatile Organic Compounds, Antarctic-Environmental Protocol, Antarctic Treaty, Biodiversity, Climate Change, Desertification, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Marine Dumping, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Tropical Timber 83, Tropical Timber 94, Wetlands and Whaling . Has signed, but not ratified: Air Pollution-Persistent Organic Pollutants

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar and wind electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.

**GDP based on EIA International Energy Annual 1998

ENERGY INDUSTRY

Oil and Gas Company: Ente Nazionale Idrocarburi (ENI); Chief Subsidiaries: Agip (hydrocarbons exploration and production), Snam (gas supplies and hydrocarbon transportation), ENIchem (petrochemicals)

Major Pipelines (gas): TransMed, Trans-Austria Gasleitung

Major Ports: Cagliari (Sardinia), Genoa, La Spezia, Livorno, Naples, Palermo, Trieste, Venice

National Electricity Company: Ente Nazionale per l'Energia Elettrica (ENEL, undergoing privatization)

Sources for this report include: CIA World Factbook; Economist; Economist Intelligence Unit; ENEL; ENI; European Union; Financial Times; Petroleum Economist; U.S. Commerce Department; U.S. Energy Information Administration; U.S. State Department; WEFA.

Links

For more information from EIA on Italy, please see:

[Latest EIA Detailed Annual Data](#)

[EIA Privatization Report \(oil\) - Italy](#)

[EIA Privatization Report - Italy](#)

Links to other U.S. Government sites:

[CIA World Factbook, Italy](#)

[U.S. Department of Energy's Pacific Northwest Laboratories, Energy Trends, Italy](#)

[U.S. State Department's Report on Economic Policy and Trade Practices, Italy](#)

[U.S. State Department's Country Commercial Guide, Italy](#)

[U.S. State Department's Background Notes, Italy](#)

[U.S. State Department's Consular Information Sheet, Italy](#)

[U.S. Commerce Department's Country Commercial Guide, Italy](#)

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